NATIONAL CENTER FOR EDUCATION STATISTICS

Findings from
The Condition of Education 1998

No. 14

College Access and Affordability

U.S. Department of Education
Office of Educational Research and Improvement
NCES 1999–108

U.S. Department of Education
Richard W. Riley
Secretary

Office of Educational Research and Improvement
C. Kent McGuire
Assistant Secretary

National Center for Education Statistics
Pascal D. Forgione, Jr.
Commissioner

The National Center for Education Statistics (NCES) is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States and other nations. It fulfills a congressional mandate to collect, collate, analyze, and report full and complete statistics on the condition of education in the United States; conduct and publish reports and specialized analyses of the meaning and significance of such statistics; assist state and local education agencies in improving their statistical systems; and review and report on education activities in foreign countries.

NCES activities are designed to address high priority education data needs; provide consistent, reliable, complete, and accurate indicators of education status and trends; and report timely, useful, and high quality data to the U.S. Department of Education, the Congress, the states, other education policymakers, practitioners, data users, and the general public.

We strive to make our products available in a variety of formats and in language that is appropriate to a variety of audiences. You, as our customer, are the best judge of our success in communicating information effectively. If you have any comments or suggestions about this or any other NCES product or report, we would like to hear from you. Please direct your comments to:

National Center for Education Statistics
Office of Educational Research and Improvement
U.S. Department of Education
555 New Jersey Avenue NW
Washington, DC 20208–5574

January 1999

The text in this booklet appears in the *Condition of Education 1998,* NCES 98–013. Copies of the *Condition* may be obtained from the Department of Education Publications Center (phone: 877-433-7827, email: edpubs@inet.ed.gov).

College Access and Affordability

by Susan P. Choy, MPR Associates

Postsecondary education generates both individual and public benefits. College graduates with a bachelor's degree earn substantially more than those with only a high school education,[1] and attending college enriches students' lives in other ways that are long lasting and extend to the next generation.[2] Society benefits from an educated population as well. In recent years, there has been evidence that education requirements for all types of occupations are growing, and that the fastest growing occupations are those that require postsecondary training.[3] Furthermore, many believe that increased participation in postsecondary education is crucial to maintaining a competitive position in the global economy.[4]

Federal and state governments encourage participation in postsecondary education and have tried to reduce price barriers so that postsecondary education is accessible. State subsidies to public institutions allow them to charge tuition that is substantially below the actual cost of education, while federal (and sometimes state) grant, loan, and work-study programs help provide financially needy students with the up-front money they need to invest in postsecondary education. Many institutions increase accessibility through their own financial aid and scholarship programs. The extent of public subsidies, the nature of the laws and regulations that determine who is eligible for financial aid, and the amount of funding provided for financial aid programs all greatly affect the affordability of postsecondary education for students from various income groups, and thus, their access to its benefits.

Reflecting the benefits of postsecondary education and the policies and programs that increase accessibility, high school completers are enrolling at record rates, and substantial numbers of older adults are enrolling as well.[5] Although interest in postsecondary education is growing, rising tuition and fees have gener-

ated considerable public concern.[6] This raises a series of important questions: To whom is postsecondary education accessible and to what extent is accessibility related to income? How much does attending postsecondary education cost students? How affordable is postsecondary education? How are students and their families coping with the price of attendance? What impact do their financing strategies have on their educational experiences? Some of the statistical evidence available to address these questions from a national perspective is summarized here.

This essay examines the extent to which the financial aid system promotes access to postsecondary education by equalizing income differences. It does not address the effects of other factors such as low employment rates or a robust economy on enrollment, nor does it examine the sensitivity of different income groups to price, the types of aid available, or differences in access by race/ethnicity. For information about trends of enrollment in higher education, see *The Condition of Education 1998.*

––– Access to Postsecondary Education –––

Increasingly, high school students are being advised to go to college, and growing numbers are taking that advice. However, not all high school completers have the same access. Some of the characteristics associated with higher rates of enrollment are related to income, suggesting that the price of attending is a barrier. However, certain attitudes and behaviors appear to be factors as well.

- ***Increasingly, high school students are being advised to go to college.***

The proportions of high school sophomores whose teachers, counselors, and parents encouraged them to go to college increased dramatically between 1980 and 1990. High school

sophomores in 1990 were twice as likely as their counterparts in 1980 to report that their teachers and guidance counselors recommended that they go to college. In 1990, more than half of even the lowest performing sophomores (those scoring in the lowest quartile on mathematics and reading tests) were advised to attend.

Percentage of high school sophomores who reported being advised to attend college by various adults: 1980 and 1990

	All students		Lowest test quartile*	
Recommended by	1980	1990	1980	1990
Father	59	77	40	60
Mother	65	83	48	65
Guidance counselor	32	65	26	56
Teacher	32	66	28	57

*Composite mathematics, reading, and vocabulary performance.

SOURCE: NCES, *America's High School Sophomores: A Ten Year Comparison, 1980–1990*, p. 47.

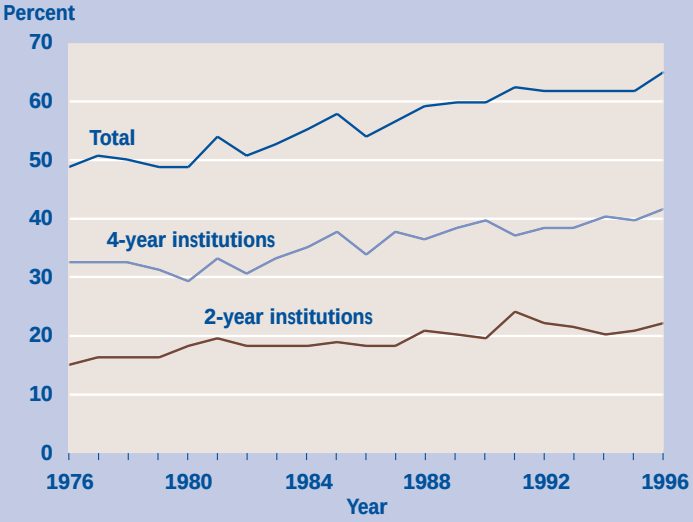
- ***Interest in postsecondary education among high school completers is almost universal.***

Nearly all 1992 high school completers (97 percent) reported that they planned to continue their education at some time, and 71 percent expected to earn a bachelor's degree. Even among completers whose families had low incomes (less than $25,000) or whose parents had no more than a high school education, the vast majority (94 percent in each case) planned to continue their education at some time. Sixty-five percent of the 1992 high school completers enrolled in some type of postsecondary education immediately after high school. By 1994, 75 percent of this same group had enrolled.[7]

■ ***Enrollment in college immediately after high school has risen over the past 20 years.***

The proportion of high school completers who enrolled in an institution of higher education (a 2- or 4-year college or university) immediately following high school increased from 49 to 65 percent between 1976 and 1996, with growth throughout the 20-year period. Of the overall gain of 16 percentage points, about half of the increase (7 percentage points) was in 2-year institutions and about half (9 percentage points) was in 4-year institutions.[8]

Percentage of high school completers who were enrolled in college the October after completing high school: 1976–96



SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

Another indicator of the interest in higher education is the percentage of young adult high school completers enrolled at any given time. This percentage reflects not only the number of high school completers who enroll immediately after high school, but also the number who delay entry but enter within the next few years, and

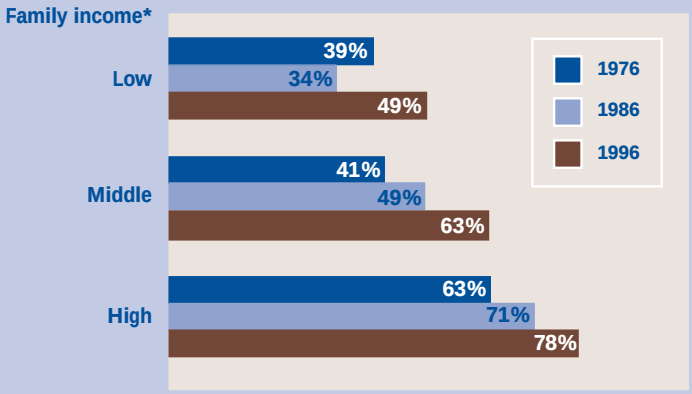
the amount of time both groups are enrolled. Between the late 1960s and the mid-1980s, about one-third (29 to 35 percent) of high school completers ages 18–24 were enrolled in higher education in any given year. After that, the proportion enrolled increased gradually to 43 percent in 1996.[9]

While the enrollment rate in higher education has increased for high school completers in the aggregate, not all segments of this population participate at the same rate. Because issues of affordability are the focus in this essay, income differences are given the most attention. However, differential participation rates extend to other characteristics, and some of these are discussed as well.

- ***Enrollment rates increase with family income.***

In 1996, high school completers from low income families were less likely to go to a 2- or 4-year college or university immediately after

Percentage of high school completers who were enrolled in college the October after completing high school, by family income: 1976, 1986, and 1996



*Low income is the bottom 20 percent of all families; high income is the top 20 percent; and middle income is the 60 percent in between.

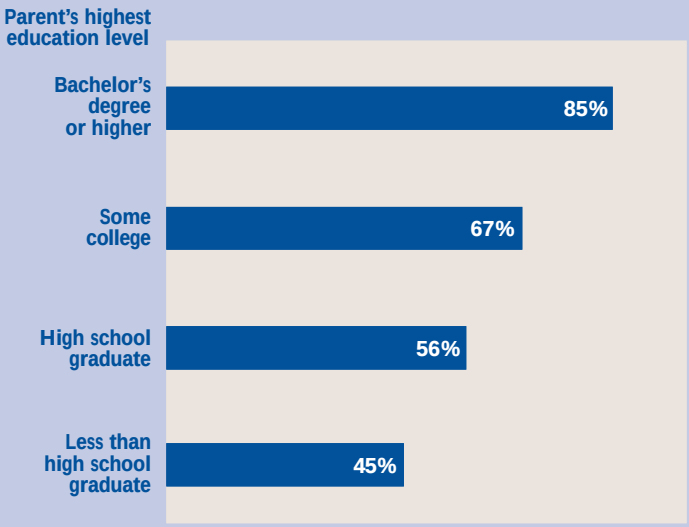
SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

high school (49 percent) than were their peers from middle income families (63 percent), who, in turn, were less likely to enroll than completers from high income families (78 percent).

- ***Enrollment rates also increase with parents' education level.***

Students are much more likely to enroll in higher education immediately after high school if their parents have at least a bachelor's degree than if they have less education.[10] Enrollment rates of 1996 high school completers immediately after high school ranged from 45 percent for those whose parents had less than a high school education to 85 percent for those whose parents had a bachelor's degree or higher. These data provide evidence of the intergenerational effects of postsecondary education.

Percentage of high school completers who were enrolled in college the October after completing high school, by parent's highest education level: 1996

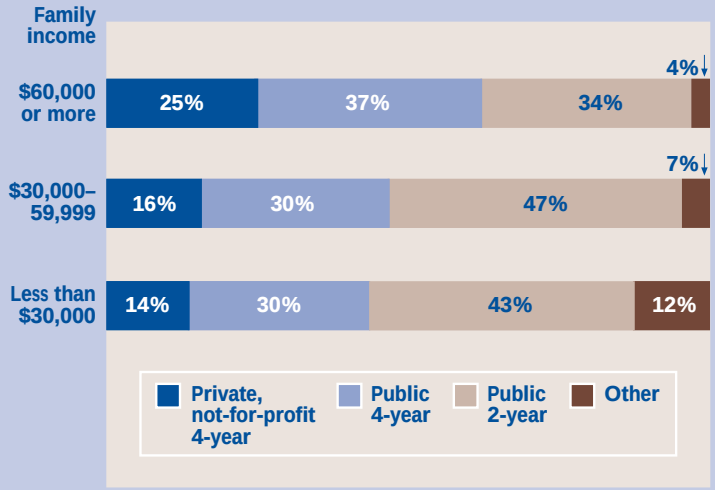


SOURCE: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

- ***Where students enroll is related to family income.***

Among financially dependent undergraduates (that is, most students under 24 years old) who enrolled in postsecondary education for the first time in 1995–96, students from families at all income levels were more likely to enroll in public 4-year institutions than they were to enroll in private, not-for-profit 4-year institutions (25 versus 15 percent).[11] Students from families with incomes of $60,000 or more were the most likely to enroll in private, not-for-profit 4-year institutions (25 percent did so, compared to 16 percent of students from families with incomes between $30,000 and $59,999 and 14 percent of students from families with incomes less than $30,000). Students from families with incomes of $60,000 or more were less likely than other students to enroll in public 2-year institutions (34 percent versus 47 percent of students from families with

Percentage distribution of dependent, first-time beginning postsecondary students, by family income: 1995–96



SOURCE: NCES, 1990 Beginning Postsecondary Students Longitudinal Study (BPS:90/94) and 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

incomes between $30,000 and $59,999 and 43 percent of students from families with incomes less than $30,000).

- ***The likelihood of being prepared to enter a 4-year institution and taking the necessary steps toward enrollment increases with income.***

One reason that low income high school graduates go to 4-year institutions at lower rates than graduates from higher income families is that they are less prepared academically. The likelihood of being prepared increased with income: 53 percent of 1992 low income graduates (less than $25,000) had sufficient academic qualifications for admission to a 4-year college, 68 percent of middle income graduates ($25,000–74,999), and 86 percent of high school graduates from high income families ($75,000 or more). In addition, among college-qualified 1992 high school graduates, there was a positive relationship between income and each of the following attitudes and behaviors that normally precede enrolling in a 4-year institution: expecting to complete a bachelor's degree; planning to enroll at a 4-year institution; taking steps toward admission (taking an entrance examination and applying); and gaining admission.

- ***Among high school graduates who have the academic qualifications and take the steps necessary for admission, low income graduates are just as likely as middle income graduates to enroll in a 4-year institution.***

Even when low income high school graduates not only had the academic qualifications for admission to a 4-year college but also took the necessary steps toward admission, they were less likely than high income graduates to enroll in a 4-year institution (83 versus 92 percent). However, they were just as likely as middle income students to be accepted at a 4-year institution (94 versus 93 percent) and to enroll (83 versus 82 percent).

Percentage of 1992 high school graduates who were college qualified* and who pursued plans to attend college, by family income

Qualifications, attitudes, and behaviors	Total	Family income		
		Low (Less than $25,000)	Middle ($25,000–74,999)	High ($75,000 or more)
College qualified*	65	53	68	86
Among college qualified graduates:				
Expected bachelor's degree	83	74	84	96
Planned to attend 4-year college	76	69	76	91
Took steps toward admission to a 4-year college	73	62	73	91
Accepted at 4-year college	69	59	69	89
Enrolled in 4-year college by 1994	62	52	62	83

*Four-year college qualification index based on high school GPA, senior class rank, NELS 1992 aptitude test, SAT and ACT scores, and curricular rigor.

SOURCE: NCES, National Education Longitudinal Study of 1988 (NELS:88), Third Follow-up (1994).

Percentage of college-qualified 1992 high school graduates taking steps toward admission at a 4-year institution who were accepted, and percentage who were enrolled by 1994, by family income

Acceptance and enrollment by 1994	Total	Family income		
		Low (Less than $25,000	Middle ($25,000–74,999)	High ($75,000 or more)
Accepted at a 4-year institution	93	94	93	98
Enrolled by 1994				
4-year institution	84	83	82	92
Any postsecondary institution	96	95	96	98

SOURCE: NCES, National Education Longitudinal Study of 1988 (NELS:88), Third Follow-up (1994).

- ***The enrollment rates of low SES, high achieving high school students are lower than the enrollment rates for middle and high SES, high achieving groups.***

Among 1992 high school seniors in the highest achievement test quartile, students whose families were also in the highest socioeconomic status (SES) quartile were considerably more likely than those in the lowest SES quartile to attend a 4-year college within two years of their scheduled graduation (86 versus 58 percent). In this sense, the access of low SES students to 4-year colleges is less than the access of high SES students. Among high school seniors in this same highest achievement quartile but in the lowest SES quartile, the likelihood of attending a 4-year college within two years of graduation has increased from 48 percent in 1972 to 58 percent in 1992. Thus, the access of low SES, high achieving students has increased since 1972.[12]

Percentage of high school seniors who enrolled in a 4-year college within 2 years of scheduled graduation, by socioeconomic status: 1974, 1982, and 1994

	Highest achievement quartile		
Socioeconomic status	1972	1980	1992
Total	70	74	77
Low quartile	48	54	58
Middle quartile	61	69	69
High quartile	85	85	86

SOURCE: NCES, National Longitudinal Study of the High School Class of 1972 (NLS–72), First Follow-up (1974); High School and Beyond (HS&B) study, Senior Cohort, Third Follow-up Survey (1986); and National Education Longitudinal Study of 1988 (NELS:88), Second Follow-up (1992) and Third Follow-up (1994).

The Price of Attending a Postsecondary Institution

The price of attending a postsecondary institution is of great concern to most students and their families. The amounts they have to pay affect students' initial access to postsecondary education and also their ability to remain enrolled long enough to complete a degree or certificate. The public is extremely anxious about rising prices, and many parents worry that college will be beyond their children's reach.[13] In reality, however, students have a range of options with widely varying price tags.

- ***The price of attending a higher education institution varies greatly depending on the type of institution.***

Financially dependent undergraduates who attended a postsecondary institution full time for the full year in 1995–96 paid average tuition and fees that ranged from $1,300 if they attended a public 2-year institution, to $3,900 at a public 4-year institution, to $13,300 at a private, not-for-profit 4-year institution. Although the price to students and their families (including living expenses as well as tuition and fees) averaged $20,000 for

Average price of attending a postsecondary institution for dependent full-time, full-year undergraduates, by type of institution: 1995–96

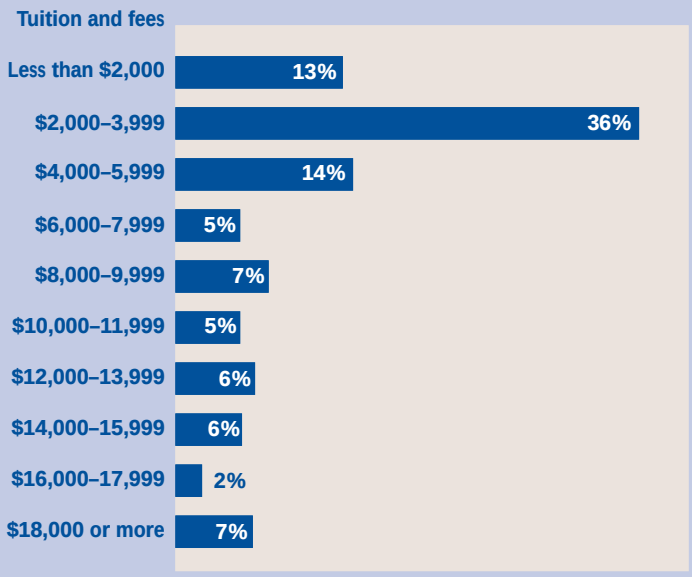
Type of institution	Tuition and fees	Total price
All students	$6,100	$12,600
Public 4-year	3,900	10,800
Private, not-for-profit 4-year	13,300	20,000
Public 2-year	1,300	6,800

SOURCE: NCES, 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

those who attended a private, not-for-profit 4-year institution, the average total price was about half that ($10,800) for those attending a public 4-year institution, and even less ($6,800) for those attending a public 2-year institution.

The amount of tuition and fees included in these prices varies widely, even among 4-year institutions. Although a small proportion (7 percent) of undergraduates (dependent and independent) who attended 4-year institutions full time, full year paid more than $18,000 in tuition and fees in 1995–96, about half (49 percent) paid less than $4,000.

Percentage distribution of full-time, full-year undergraduates at 4-year colleges, by tuition and fees: 1995–96



SOURCE: NCES, 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

- ***The price of college attendance has escalated, even allowing for inflation.***

The price of attending a 2- or 4-year college or university, adjusted for inflation, has risen substantially for both public and private institutions. Between 1986–87 and 1996–97, the average student charges (in 1997 constant dollars) for tuition, room, and board at higher education institutions increased by 20 percent at public institutions and 31 percent at private institutions.

Average* prices for undergraduate higher education (in 1997 constant dollars), by type of institution: 1986 and 1996

Type of institution	1986–87	1996–97	Percent change
	Average tuition, room, and board*		
Public	$5,500	$6,600	20
Private	14,000	18,300	31
	Average tuition and fees*		
Public	1,600	2,300	44
Private	9,100	12,700	40

*Weighted by student enrollment.

SOURCE: NCES, *Digest of Education Statistics 1997*, tables 38 and 312 (based on IPEDS "Fall Enrollment" and "Institutional Characteristics" surveys); and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Income, Poverty, and Valuation of Non-Cash Benefits," various years (based on the March Current Population Surveys).

---- AFFORDABILITY ----

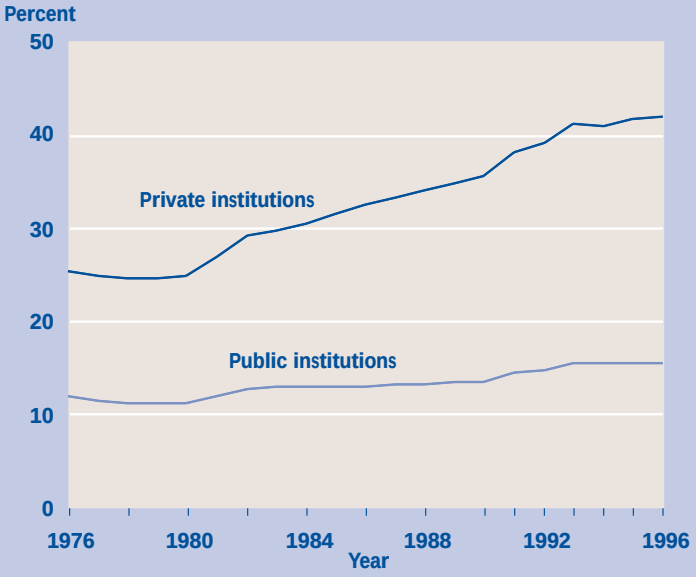
Regardless of the price of postsecondary education, the important issue for students and their families is whether they can afford to pay. The record high enrollments in higher education (14.4 million in fall 1995[14]) show that today college is affordable to millions of students. Since increasing access to postsecondary education is an important goal at the national, state, and institu-

tional levels, it is necessary to consider its affordability to students at all income levels. This issue can be examined from a number of perspectives, including growth in prices relative to family income, the resources families need to manage college prices on their own, and the extent to which financial aid reduces the price of attending.

- ***The price of college attendance has increased faster than family incomes.***

More important than the increase in inflation-adjusted prices is the fact that average charges for tuition, room, and board at 2- and 4-year colleges and universities have increased faster than family incomes, especially at private institutions.

Average undergraduate tuition, room, and board as a percentage of median family income: 1976–96

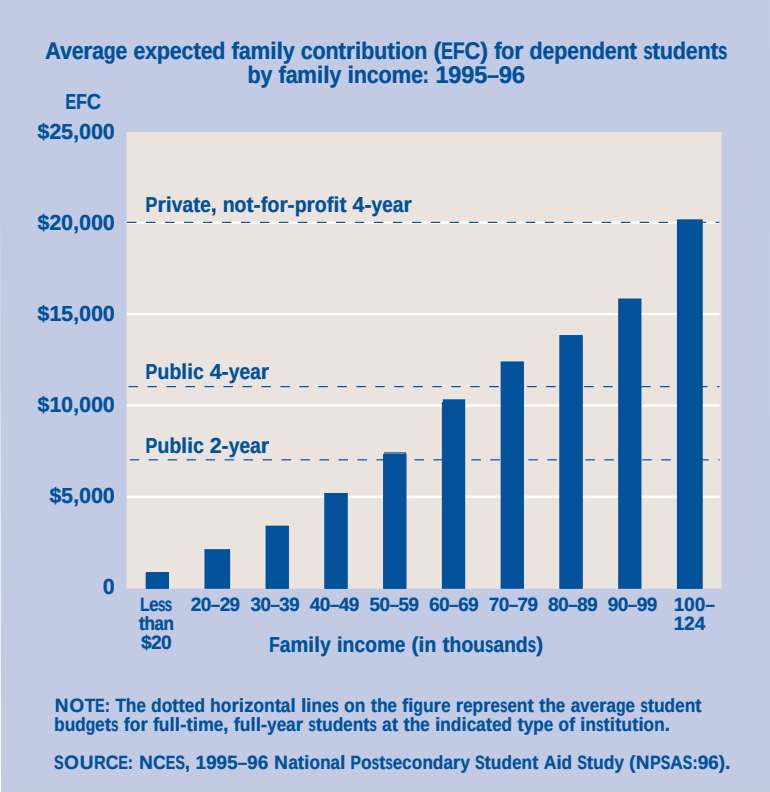


SOURCE: NCES, *Digest of Education Statistics 1997* (based on IPEDS "Fall Enrollment" and "Institutional Characteristics" surveys); and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Income, Poverty, and Valuation of Non-Cash Benefits," various years (based on the March Current Population Surveys).

Average prices at public institutions increased from 13 percent of the median family income in 1986 to 15 percent in 1996, and at private institutions, from 32 to 42 percent during the same period.[15] The increase was larger for low income families than for high income families. Between 1986 and 1996, charges at public institutions increased from 27 to 33 percent of family income for those at the 20th income percentile, compared to an increase from 7 to 9 percent for families at the 80th percentile. At private institutions, the corresponding increases in charges were from 69 to 90 percent of family income at the 20th percentile and from 19 to 24 percent at the 80th percentile.[16]

- ***Student financial aid increases affordability for eligible students.***

Postsecondary education would be beyond the reach of many families without financial assistance. Financial aid eligibility rules specify an expected family contribution (EFC) that is based on their financial circumstances (mainly income and assets). This amount is a rough measure of what families can afford on their own. Therefore, comparing the amounts families at different income levels are expected to pay toward the price of attending provides an indicator of the affordability of various types of institutions. For example, families with incomes of $50,000–59,999 had an average EFC of $7,400, enough to cover the average price of attending a public 2-year institution without financial aid. Families with incomes of $70,000–79,999 had an average EFC of $12,300, enough to cover the price of attending a public 4-year institution without aid. Families with incomes of $100,000–124,000 had an average EFC of $20,100, about equal to the average cost of attending a private, not-for-profit 4-year institution.



NOTE: The dotted horizontal lines on the figure represent the average student budgets for full-time, full-year students at the indicated type of institution.

SOURCE: NCES, 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

Half of all undergraduates received some type of financial aid from federal, state, institutional, or other sources in 1995–96. Thirty-nine percent received grants, and 26 percent took out loans. Among financially dependent students, about two-thirds (66 percent) of those from families with incomes less than $20,000 received grants, as did 51 percent of those with incomes between $20,000 and $39,999. As family income rises above $40,000, students are less likely to be eligible for need-based grants and scholarships. When grants are not sufficient, students qualifying for federal financial aid may take out low interest, subsidized loans through the Stafford loan program. Students ineligible for subsidized loans because their incomes are too high can take out unsubsidized Stafford loans if they are

Percentage of undergraduates with student financial aid from any source in 1995–96, by family income and type of aid

Family income	Any aid*	Grants	Loans
Total	50	39	26
Family income in 1994 (dependent students only)			
Less than $20,000	70	66	35
$20,000–39,999	60	51	38
$40,000–59,999	47	30	32
$60,000–79,999	43	25	27
$80,000–99,999	38	20	23
$100,000 or more	28	17	13

*Also includes other types of aid, such as work study. Includes aid from federal, state, institutional, and other sources.

SOURCE: NCES, 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

otherwise eligible. Some states and institutions have their own loan programs, but most undergraduate borrowing is through the Stafford loan program.[17]

For undergraduates from families in the lowest income quartile, student aid covered, on average, more than half the price of attending a 4-year institution in 1995–96. It covered 54 percent at public institutions and 60 percent at private, not-for-profit institutions. Because of the criteria for awarding student aid, the percentage of total price covered by aid declined as family income increased at public 4-year institutions. The same was generally true at private, not-for-profit 4-year institutions, except that lower and lower middle income students had similar amounts covered (60 and 58 percent). At public 2-year institutions, aid covered an average of 38 percent of the total price for low income students, and smaller proportions for students with higher incomes.

Total aid as a percentage of total price, for dependent full-time, full-year undergraduates, by family income quartile and type of institution attended: 1995–96

Family income quartile	Public 4-year	Private, not-for-profit 4-year	Public 2-year
Total	33	45	17
Low	54	60	38
Lower middle	41	58	14
Upper middle	26	46	9
High	17	25	4

NOTE: Total price includes tuition and fees, and an institutionally determined allowance for student living expenses.

SOURCE: NCES, 1990 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

- ***Despite financial aid, many students have unmet need.***

The net amount that students actually pay to attend college is the total price charged by the institution minus any financial aid they are awarded. This price includes tuition, fees, and a budgeted amount of living costs. In 1995–96, the average net price of attending college (price minus aid received) for a dependent, full-year undergraduate (including aided and unaided students in the average) was $7,300 at a public 4-year institution, $11,200 at a private, not-for-profit 4-year institution, and $5,700 at a public 2-year institution. Because financial aid reduces the net price for low income students, it increases the affordability of postsecondary education for them.

Average net price and unmet need for dependent full-time, full-year undergraduates, by type of institution attended and family income quartile: 1995–96

Type of institution and family income quartile	Net price	Unmet need
Total	$8,100	$2,700
Public 4-year	7,300	2,000
Low	4,700	3,800
Lower middle	6,200	3,000
Upper middle	7,800	1,500
High income	9,700	400
Private, not-for-profit 4-year	11,200	4,500
Low	7,200	6,200
Lower middle	7,800	4,900
Upper middle	10,900	4,500
High	16,400	3,000
Public 2-year	5,700	1,800
Low	4,200	3,200
Lower middle	6,000	2,700
Upper middle	6,400	600
High	6,600	100

NOTE: Averages include zero values.

SOURCE: NCES, 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

- ***For students from low income families, the total unmet need remains a substantial proportion of family income.***

The average unmet need (net price minus the EFC) for low income full-time, full-year dependent undergraduates attending public 4-year institutions was about $3,800, and a similar amount ($3,200) at public 2-year institutions. Average unmet need for their counterparts at private, not-for-profit 4-year institutions was much higher ($6,200). These are the amounts above

and beyond the EFC that must be covered by students and their families by borrowing more, working, reducing their living costs, or some other means.

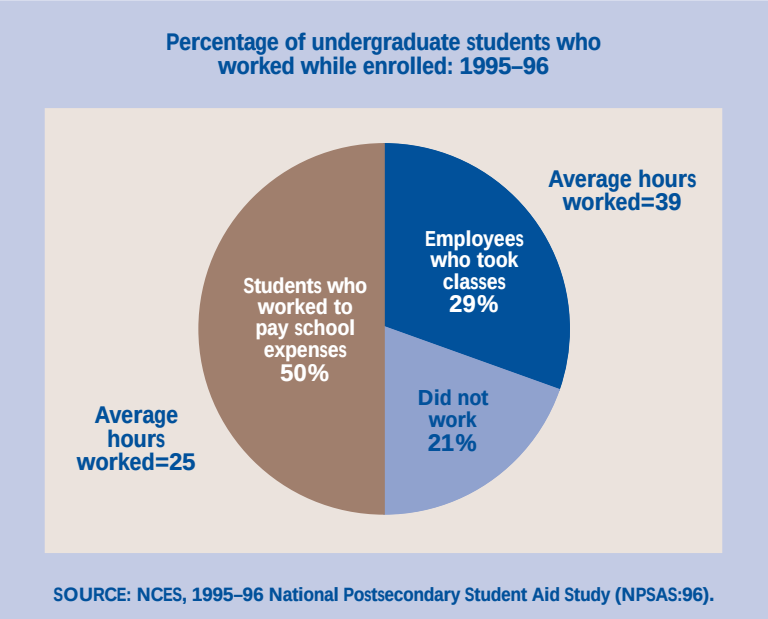
In addition to the fact that lower income students have higher unmet need than higher income students, lower income students have also been found to be more sensitive to a given level of unmet need than high income students. That is, for a certain level of unmet need, low income students are more likely to be deterred from attending higher education than higher income students are.[18] Generally it has been found that for each $150 increase in the net price of college attendance, the enrollments of students in the lowest income group decrease by about 1.8 percent.[19]

Coping With the Price of Attending College

Students pay for their postsecondary education with a combination of savings, help from families and friends, financial aid, and work. Their use of work and borrowing are of particular interest because working may affect their academic opportunities and performance while enrolled, and borrowing may result in a substantial debt burden after they graduate.

- ***Students rely heavily on work to help pay for their education.***

A large majority of undergraduates (including both dependent and independent students) worked while enrolled (79 percent) during the 1995–96 academic year. Among students who considered themselves primarily students working to pay their education expenses (50 percent of all students), the average number of hours worked per week was 25. Among students who considered



themselves primarily employees taking classes (29 percent of all students), the average was 39 hours.

- ***Working can have negative consequences on students' academic opportunities and performance.***

Among undergraduates who considered themselves primarily students working to pay school expenses, the more they worked the more likely they were to report that their working limited their class schedule, reduced their choice of classes, and limited the number of classes they could take. Among those who worked full time while enrolled (35 or more hours per week), at least half reported each of these effects. In addition, 55 percent of dependent undergraduates who considered themselves primarily students and who worked full time reported that working negatively affected their grades.

Percentage of undergraduates who worked to help pay for school expenses and various effects of work on their studies, by average hours worked: 1995–96

Average hours worked per week while enrolled	Limited class schedule	Reduced class choices	Limited number of classes	Negatively affected their grades*
Total	40	36	30	37
1–15	22	16	15	17
16–20	31	28	24	34
21–34	42	38	32	46
35 or more	61	60	51	55

*Asked only of dependent students.

SOURCE: NCES, 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

- ***Borrowing through federal loan programs increased considerably after income restrictions were removed.***

Since unsubsidized Stafford loans were introduced in 1993–94, many students whose family income was too high to qualify for a subsidized loan have taken advantage of this opportunity to borrow to finance their education. In 1992–93, the last year before the eligibility rules changed, 41 percent of all seniors enrolled at public 4-year institutions had ever borrowed through a federal loan program; in 1995–96, 52 percent had done so. At private, not-for-profit 4-year institutions, the percentage ever borrowing increased from 49 to 56 percent.

- ***Borrowing increased particularly among middle and upper income families.***

Among dependent undergraduates at both public and private, not-for-profit 4-year institutions, the increase in borrowing was concentrated among students from families with incomes

Percentage of students who borrowed during the academic year and who ever borrowed, by type of institution: 1992–93 and 1995–96

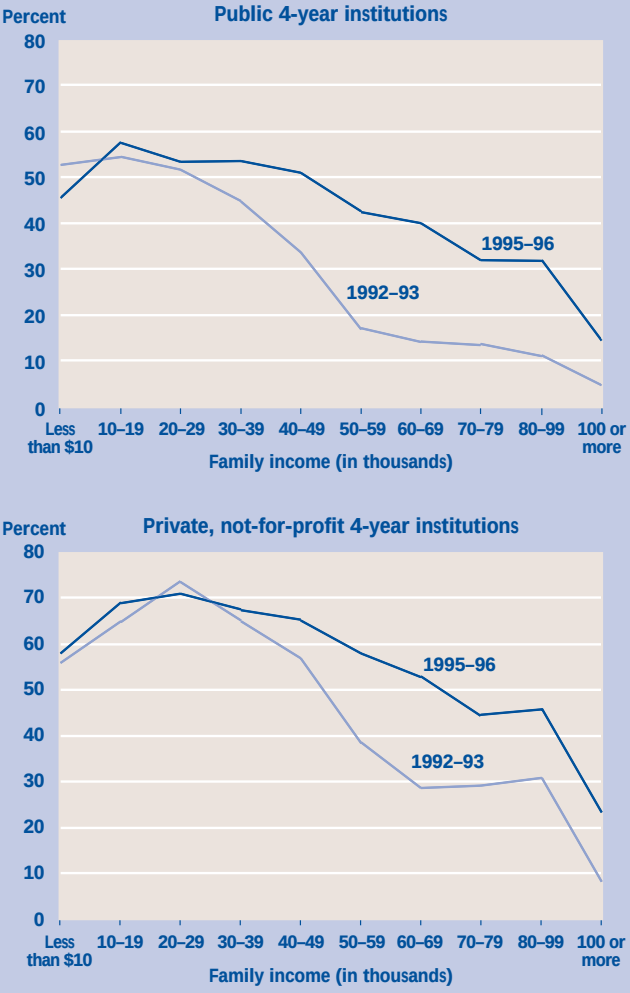
Type of institution	1992–93		1995–96	
	Borrowed in 1992–93	Ever borrowed	Borrowed in 1995–96	Ever borrowed
Public 4-year				
All students	25	36	35	47
Seniors	26	41	37	52
Private, not-for-profit 4-year				
All students	35	45	44	54
Seniors	35	49	43	56
Public 2-year	6	18	6	21

SOURCE: NCES, 1992–93 National Postsecondary Student Aid Study (NPSAS:93) and 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

greater than about $30,000. Although some have linked the increased borrowing to rising tuitions,[20] there is no way to verify whether the increased borrowing represents more investment in postsecondary education or if middle and upper income families have simply shifted from using savings or work to borrowing. Overall, 52 percent of the seniors at public 4-year colleges in 1995–96 had ever borrowed from federal loan programs, and they carried an average of $11,000 in debt. For seniors at private, not-for-profit 4-year colleges, about 56 percent had ever borrowed and their average debt was $13,200.[21]

Students from higher income families do not appear to have used the increased borrowing opportunities to shift from public institutions to private, not-for-profit 4-year institutions. The percentage of dependent beginning postsecondary students from families with incomes of $60,000 or more attending private, not-for-profit institutions was about the same in 1989–90 (24 percent) and 1995–96 (25 percent).[22]

Percentage of dependent, undergraduate students who ever borrowed from federal loan programs: 1992–93 and 1995–96

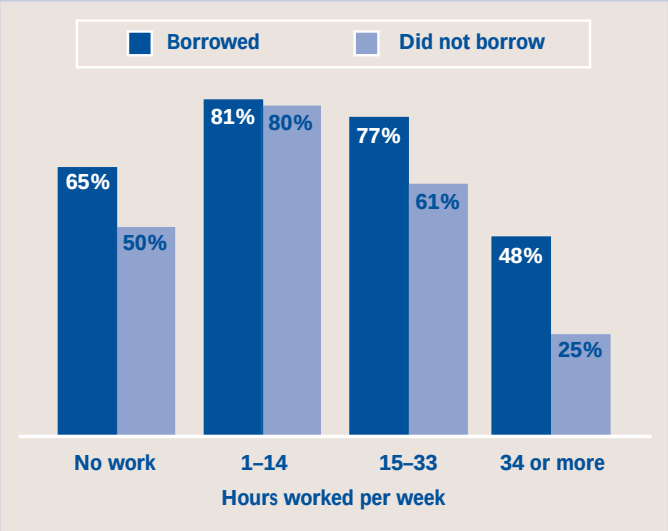


SOURCE: NCES, 1992–93 National Postsecondary Student Aid Study (NPSAS:93) and 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

- ***Working a modest amount was positively associated with persistence, as was borrowing.***

An analysis of persistence and attainment by 1989–90 beginning postsecondary students that controlled for a variety of factors showed that working 1–14 hours per week while enrolled was positively associated with persistence and attainment five years later, but that working full time was negatively associated with it. Borrowing was positively associated with persistence and attainment as well.[23] Students who borrowed were more likely than those who did not borrow to persist or attain within five years at each level of work considered except 1–14 hours.

Percentage of 1989–90 first-time beginning postsecondary students who attained a degree or were still enrolled as of spring 1994



SOURCE: NCES, 1989–90 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:90/94).

Findings from an analysis of 1995–96 undergraduates were similar, although outcome data are available only for one year so far. Among those seeking a bachelor's or associate's degree who considered themselves primarily students working to pay their expenses, those who worked 15 or fewer hours were more likely than students who worked more to attend for the full year, suggesting that working more than 15 hours may negatively affect persistence.

The students who considered themselves primarily students and worked 15 hours or fewer were also more likely to borrow and to borrow larger amounts, suggesting that students may substitute working for borrowing.[24]

---- SUMMARY ----

Enrollment in postsecondary education continues to rise, with increasing proportions of high school graduates going directly to college, and almost all expecting to enroll at some time in their lives. Low income high school graduates are less likely to attend postsecondary education than their higher income peers. One reason is that they tend to be less well prepared, but even among the highest achieving high school students, low income students are less likely to enroll, suggesting that finances may be a barrier for some. However, aspirations and expectations are important factors. When college-qualified low income students take the necessary steps toward admission to a 4-year institution, they are just as likely as middle income students to be accepted and to enroll.

College prices are rising faster than median family income. However, about half of all full-time, full-year undergraduates at 4-year institutions face tuition and fees of less than $4,000 per year, largely because of the subsidies that are provided to public

institutions. Although financial aid reduces net prices for low income students, substantial unmet need remains.

Students and their families cope with the price of attending college using savings, income, borrowing, and work. While some work experience while enrolled may complement students' academic experiences and improve their employment prospects after graduation, full-time work appears to have some negative consequences. In addition, there is some evidence that borrowing to reduce the number of hours a student needs to work to no more than 15 hours per week may increase a student's chance of completing a degree.

---- References ----

[1]In 1996, young adult workers ages 25–34 who had completed a bachelor's degree or higher earned substantially more than those who had only completed high school (males earned 54 percent more, and females earned 88 percent more). See U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 1998* (NCES 98–013), Washington, D.C.: 1998, 104, based on U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys.

[2]E.T. Pascarella and P.T. Terenzini, *How College Affects Students,* San Francisco: Jossey-Bass, 1991.

[3]For a review of the evidence, see M. Mumper, *Removing College Price Barriers,* Albany, NY: State University of New York Press, 1996.

[4]See, for example, R. Reich, *The Work of Nations,* New York: Knopf, 1991.

[5]In fall 1995, 37 percent of all undergraduates in institutions of higher education were 25 years or older. See U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1997* (NCES 98–015), Washington, D.C.: 1997.

[6]A national commission was established to study this problem and recently released its final report. See National Commission on the Cost of Higher Education, *Straight Talk on the Cost of Higher Education,* Washington, D.C.: 1998.

[7]U.S. Department of Education, National Center for Education Statistics, *Access to Postsecondary Education for the 1992 High School Graduates*, by L. Berkner and L. Chavez (NCES 98–105), Washington, D.C.: 1997.

[8]*The Condition of Education 1998*, p. 46, based on U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

[9]NCES, *Digest of Education Statistics 1997*.

[10]*The Condition of Education 1998*, p. 197, based on U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys.

[11]Ibid., p. 52, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study (BPS:90/94) and 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

[12]U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 1997* (NCES 97-388), Washington, D.C.: 1997, p. 64, based on NCES, National Longitudinal Study of the High School Class of 1972 (NLS–72), First Follow-up (1974); High School and Beyond (HS&B) study, Senior Cohort, Third Follow-up Survey (1986); and National Education Longitudinal Study of 1988 (NELS:88), Second Follow-up (1992) and Third Follow-up (1994).

[13]National Commission on the Cost of Higher Education, *Straight Talk on the Cost of Higher Education*.

[14]NCES, *Digest of Education Statistics 1997*.

[15]*The Condition of Education 1997*, p. 70, based on NCES, *Digest of Education Statistics 1997* (based on IPEDS "Fall Enrollment" and "Institutional Characteristics" surveys); and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-60, "Income, Poverty, and Valuation of Non-Cash Benefits," various years (based on the March Current Population Surveys).

[16]NCES, *Digest of Education Statistics 1997* (based on IPEDS "Fall Enrollment" and "Institutional Characteristics" surveys); and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "Income, Poverty, and Valuation of Non-Cash Benefits," various years (based on the March Current Population Surveys).

[17]U.S. Department of Education, National Center for Education Statistics, *Student Financing of Undergraduate Education: 1995–96*, by L. Berkner (NCES 98–076), Washington, D.C.: 1998.

[18]T.J. Kane, "College Entry by Blacks Since 1970: The Role of College Costs, Family Background, and the Returns to Education," *Journal of Political Economy* 105 (5) (October 1994).

[19]M.S. McPherson and M.O. Shapiro, *The Student Aid Game: Meeting Need and Rewarding Talent in American Higher Education*, Princeton, N.J.: Princeton University Press, 1998.

[20]See, for example, General Accounting Office, *Higher Education: Students Have Increased Borrowing and Working to Help Pay Higher Tuitions*, Washington, D.C.: 1998.

[21]*The Condition of Education 1998*, p. 62, based on NCES, 1992–93 National Postsecondary Student Aid Study (NPSAS:93) and 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

[22]*The Condition of Education 1998*, table 10-1, based on NCES, 1990 Beginning Postsecondary Students Longitudinal Study (BPS:90/94) and 1995–96 National Postsecondary Student Aid Study (NPSAS:96).

[23]U.S. Department of Education, National Center for Education Statistics, *Postsecondary Financing Strategies: How Undergraduates Combine Work, Borrowing, and Attendance*, by S. Cuccaro-Alamin and S.P. Choy (NCES 98–088), Washington, D.C.: 1998.

[24]U.S. Department of Education, National Center for Education Statistics, *Profile of Undergraduates in U.S. Postsecondary Institutions: 1995–96*, by L. Horn and J. Berktold (NCES 98–084), Washington, D.C.: 1998.

---- Other NCES Publications ----

For more information, see the following NCES publications:

The Condition of Education 1998. Washington, D.C.: 1998 (NCES 98–013)

The Condition of Education 1997. Washington, D.C.: 1997 (NCES 97–388)

The Condition of Education 1996. Washington, D.C.: 1996 (NCES 96–304)

Digest of Education Statistics 1997. Washington, D.C.: 1997 (NCES 98–015)

Digest of Education Statistics 1996. Washington, D.C.: 1996 (NCES 96–133)

Other ***Findings from the Condition of Education:***

No. 1: *High School Students Ten Years After* A Nation At Risk (NCES 95–764)

No. 2: *The Educational Progress of Black Students* (NCES 95–765)

No. 3: *America's Teachers Ten Years After* A Nation At Risk (NCES 95–766)

No. 4: *The Educational Progress of Hispanic Students* (NCES 95–767)

No. 5: *The Educational Progress of Women* (NCES 96–768)

No. 6: *The Cost of Higher Education* (NCES 96–769)

No. 7: *Teachers' Working Conditions* (NCES 97–371)

No. 8: *Preparation for Work* (NCES 97–373)

No. 9: *Minorities in Higher Education* (NCES 97–372)

No. 10: *The Social Context of Education* (NCES 97–981)

No. 11: *Women in Mathematics and Science* (NCES 97–982)

No. 12: *Public and Private Schools: How Do They Differ?* (NCES 97–983)

No. 13: *Postsecondary Persistence and Attainment* (NCES 97–984)

Until supplies are exhausted, copies of these and all other NCES publications are available from the Department of Education Publications Center at 877-433-7827 (email: edpubs@inet.ed.gov). Copies may also be purchased from the Government Printing Office (GPO). To order a copy from GPO see the order form at the end of this document.

---- Internet Access ----

http://nces.ed.gov/

The National Center for Education Statistics (NCES) is the Nation's principal education statistics agency. Our Web site provides access to a wide range of statistical information about education in the United States and other nations.

The NCES home page includes:

Commissioner's Remarks

What's New offers a description of recently released reports and upcoming conferences.

Search NCES provides a link to NCES information via keyword index.

Publications gives you the capability to find publications by subject or survey.

Data Products provides detailed information about NCES surveys.

Survey and Program Areas describes all surveys conducted by NCES and certain program areas.

NCES Conference Connection lists NCES conferences and workshops.

Projects With Partners describes NCES collaborative projects.

FAQ Section provides responses to questions about NCES data.

NCES Staff provides a search mechanism to locate NCES staff.

NCES publications may be found at:

http://nces.ed.gov/pubsearch/index.html

---- Selected Publications ----

Listed below is a sampling of frequently requested NCES publications available for purchase.

America's Teachers: Profile of a Profession, 1993-94
GPO #065-000-01046-1, $25

Characteristics of Children's Early Care and Education Programs: Data from the 1995 National Household Education Survey
GPO #065-000-01157-3, $14

Confronting the Odds: Students At Risk and the Pipeline to Higher Education
GPO #065-000-01099-2, $8

Dropout Rates in the United States: 1996
GPO #065-000-01096-8, $8.50

Education in the States and Nations
GPO #065-000-00873-4, $22

Education Indicators: An International Perspective
GPO #065-000-00901-3, $20

Inequalities in Public School District Revenues
GPO #065-000-01168-9, $19

Literacy of Older Adults in America: Results From the National Adult Literacy Survey
GPO #065-000-00939-1, $17

Projections of Education Statistics to 2008
GPO #065-000-01150-6, $25